

**ADVANCED MICROELECTRONIC CONNECTOR ASSEMBLY AND  
METHOD OF MANUFACTURING**

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Abstract of the Disclosure

An advanced modular plug connector assembly incorporating a substrate disposed in the rear portion of the connector housing, the substrate adapted to receive one or more electronic components such as choke coils, transformers, or other signal conditioning elements or magnetics. In one embodiment, the connector assembly comprises a single port pair with a single substrate disposed in the rear portion of the housing. In another embodiment, the assembly comprises a multi-port "row-and-column" housing with multiple substrates (one per port) received within the rear of the housing, each substrate having signal conditioning electronics which condition the input signal received from the corresponding modular plug before egress from the connector assembly. In yet another embodiment, the connector assembly comprises a plurality of light sources (e.g., LEDs) received within the housing. Methods for manufacturing the aforementioned embodiments are also disclosed.

20